

What is Claimed is:

1. A network management apparatus, which is provided for each of any partial networks arbitrarily determined by combining any nodes of a network, comprising:

a message passing operator operable to receive a token for connection request, which is output via a node in a partial network the network management apparatus manages, having destination information;

a token processor operable to detect a route having the possibility of existence of the destination for connection on the basis of the destination information of the received token; and

a token generator operable to output a token for connection request to the detected routes having the possibility of connection by constructing hypothetically a path for connection among the nodes which are achievable the connection request.

2. The network management apparatus according to claim 1, wherein the token processor carries out a search for the destination for connection inside the partial network managed by the network management apparatus and the token generator outputs the token for connection request to another partial network after searching inside the managed partial network.

3. The network management apparatus according to claim 2, further comprising a mediator neighbors manager operable to manage information of nodes in the adjoining partial network which can be connected to the managed partial network, wherein the route having the possibility of existence of the destination for connection is detected on the basis of the managed information.

4. The network management apparatus according to claim 3, wherein at least the managed information of the nodes in the adjoining partial network is updated based on input information on the addition or deletion of nodes in the adjoining partial network.